PATENT CLAIMS

1. An electrical multilayer component (1),

- comprising at least one of a capacitor, a temperature-dependent resistor, and a varistor,

said multilayer component comprising:

- a main body (5) constructed from stacked dielectric layers,

- multiple electrode areas positioned in the main body at intervals between the dielectric material layers, in which areas electrodes (10A, 15A) are formed,

- at least two bumps (10, 15) for the electrical contact of the component, which bumps are positioned on the surface of the main body (5),

- the bumps (10, 15) being electrically connected to at least one of said electrodes (10A, 15A) via through contacts (6) arranged in the main body, so that a first and a second electrode stack (10B, 15B) are formed, wherein each of said first and second stack contacts only one of said bumps (10, 15).

2. The multilayer component according to claim 1,

- wherein a plurality of electrodes (10A) is provided in same electrode stack (10B), said electrodes being arranged in different electrode areas,

- said electrodes (10A) being connected to one another in an electrically conductive way using said through contacts (6).

3. The multilayer component (1) according to one of the preceding claims,

- wherein said first and second electrode stacks (10B, 15B) face one another in the main body (5),
- wherein an electrode-free region (11) of the main body (5) is provided between the two electrode stacks.

4. The multilayer component according to one of claims 1 or 2,

- wherein the electrodes (10A, 15A) of the first and second stack overlap one another.

5. The multilayer component (1) according to one of the preceding claims,

- wherein floating electrodes (60) are provided in the main body (5), wherein said floating electrodes do not contact any of the bumps (10, 15).

6. The multilayer component according to the preceding claim,

- wherein the floating electrodes (60) overlap with the electrodes (10A, 15A) of at least one of the first (10B) and the second electrode stacks (15B).

7. The multilayer component (1) according to one of the preceding claims,

- wherein a third bump (20) is provided on the surface of the main body,
- wherein at least one third electrode stack (20B) is provided in the main body (5), said third electrode stack comprising at least one electrode (20A), wherein said third electrode stack is connected in an electrically conductive way to the third bump (20) via through contacts (6),

- the at least one electrode (20A) of the third electrode stack (20B) overlapping with an electrode (10A, 15A) of at least one of the first (10B) and the second electrode stacks (15B).

8. The multilayer component according to claim 7,

- wherein the electrodes (10A, 15A) of the first (10B) and the second electrode stacks (15B) do not overlap one another.

9. The multilayer component according to one of preceding claims 7 or 8,

- wherein the first (10B), second (15B), and third electrode stacks (20B) each comprise one electrode (10A, 15A, 20A).

10. The multilayer component according to one of claims 7 through 9,

- wherein the overlap areas (21, 22) between the electrodes of different pairs of electrode stacks (10B, 15B, 20B) have different sizes with respect to one another.

11. The multilayer component according to the preceding claim,

- wherein the overlap areas (21, 22) between the third electrode stack (20B) and the first electrode stacks (10B) have different sizes with respect to the overlap areas (21, 22) between the third electrode stack (20B) and the second electrode stack (15B).

12. The multilayer component according to one of claims 7 through 11,

- wherein a fourth (25) and fifth bump (30) are provided on the surface of the main body (5),
- wherein a fourth (25B) and a fifth electrode stack (30B) comprising electrodes (25A, 30A) are provided,
- wherein the forth electrode stack (25B) is connected to the fourth bump (25) via through contacts (6), and wherein the fifth electrode

stack (30B) is connected to the fifth bump (30) via through contacts (6),

- the electrodes (25A) of the fourth electrode stack (25B) overlapping with the electrodes (15A) of the second electrode stack (15B) and the electrodes (30A) of the fifth electrode stack (30B).

13. The multilayer component according to one of the preceding claims,

- wherein further bumps are provided on the surface of the main body,
- wherein further electrode stacks are provided in the main body, said further electrode stacks being each connected to a respective further bump.

14. The multilayer component according to claim 13,

- wherein at least some of the electrodes (20A, 80A) of different electrode stacks (20B, 80B) are connected to one another in an electrically conductive way.

15. The multilayer component according to one of the preceding claims,

- wherein all bumps are positioned on the same main surface of the main body.

16. The multilayer component according to one of the preceding claims,

- wherein the dielectric layers comprise a ceramic material.

17. The multilayer component according to claim 16,

- wherein the ceramic material comprises a varistor ceramic based on one of ZnO-Bi and ZnO-Pr.

18. The multilayer component according to claim 16,

- wherein the ceramic material comprises a capacitor ceramics which is one of NPO ceramics and doped $BaTiO_3$.

19. The multilayer component according to claim 16,

- wherein the ceramic material comprises one of nickel, manganese, spinel,. and perowskite.

20. The multilayer component according to one of the preceding claims,

- wherein the dielectric layers comprise glass.

21. The multilayer component according to one of the preceding claims,

- wherein at least five bumps are provided on same main surface of the main body,
- wherein at least 5 electrode stacks are provided in the main body, said stacks being connected to a respective bump,

- wherein the main body has an area which is smaller than 2.5 mm^2.

22. The multilayer component according to one of claims 1 through 20,

- wherein at least nine bumps are provided on same main surface of the main body,

- wherein at least 9 electrode stacks are provided in the main body, said stacks being connected to a respective bump,

- wherein the main body has an area which is smaller than 5.12 mm^2.

23. The multilayer component according to one of claims 1 through 20,

- wherein at least eleven bumps are provided on same main surface of the main body,

- wherein at least 11 electrode stacks are provided in the main body, said stacks being connected to a respective bump,

- wherein the main body has an area which is smaller than 8 mm^2.

24. The multilayer component according to one of the preceding claims,

- wherein the through contacts (6A, 6B) are provided in the form of channels in the main body, in which channels an electrically conductive material is arranged.

25. The multilayer component according to claim 24,

- wherein the through holes have one of a round and a rectangular cross-section.

26. The multilayer component according to one of claims 24 or 25,

- wherein the electrodes of a respective electrode stack are connected to one another in an electrically conductive way by a plurality of through contacts, said through contacts being arranged in different dielectric layers and being offset to one another.

27. The multilayer component according to claim 26,

- wherein the main body has two opposite main surfaces (300, 400) and two front faces (500, 600), the bumps (10, 15) being positioned on the main surfaces (300, 400),

- wherein through contacts (6A) arranged closest to the bumps (10, 15) have a greater distance to neighboring front faces (500, 600) of the

component than the through contacts (6B) arranged further away from the bumps (10, 15).

28. The multilayer component according to claim 24,

- wherein the electrically conductive material comprises at least one of Ag, AgPd, AgPt, AgPdPt, Pd, Pt, and Cu.

29. An arrangement containing a multilayer component (1) according to one of the preceding claims,

- comprising a carrier substrate (100) and contact pads (90) for contacting the component, said contact pads being arranged on the surface of said carrier substrate,

- the multilayer component being mounted on the carrier substrate (100) in a flip chip arrangement with clearance to said carrier substrate,
- said multilayer component being connected to said carrier substrate in an electrically conductive way via the contact pads (90) by means of said bumps (10, 15, 20).

30. A method for manufacturing a multilayer component, said method comprising the following steps:

A) a main body (5) having electrodes (10A, 15A) and through contacts (6A, 6B) arranged in the interior of said main body is produced in that a layer stack is provided of electrodes (10A, 15A) positioned between dielectric layers, said

dielectric layers having through holes, an electrically conductive material being provided in the through holes,

B) bumps (10, 15) are produced directly on the respective through contacts.

31. The method according to claim 30,

- wherein in step A) a main body having two main surfaces (300, 400) and at least two front faces (500, 600) is produced, the through contacts (6A, 6B) being produced in the form of channels in the interior of the main body (5) running transversely to the main surfaces,

- wherein in step B) the bumps are produced on the main surfaces.

32. The method according to one of claims 30 or 31,

- wherein in step A) the through contacts (6A, 6B) are produced in different dielectric material layers, through contacts (6A, 6B) in neighboring dielectric layers being produced offset to one another.

33. The method according to one of claims 30 through 32,

- wherein in step A) the through contacts (6A) which are closest to the bumps (10, 15) have a greater distance to neighboring front faces (500,

600) than through contacts (6B) which are further from the bumps (10, 15).